Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of

GN Docket No. 12-354

Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band

Via the ECFS

COMMENTS OF IEEE 802

1. IEEE 802[1] respectfully submits its Comments in the above-captioned Proceeding[2].
2. IEEE 802, as a leading consensus-based standards body, produces standards for wireless networks and devices, including wireless local area networks ("WLANs"), wireless personal area networks ("WPANs"), wireless metropolitan area networks ("Wireless MANs"), and wireless regional area networks ("WRANs"). Included in our standards development activity is an emphasis on coexistence, which is the focus of our Wireless Coexistence working group. We appreciate the opportunity to provide these comments to the FCC.

INTRODUCTION

3. On December 12, 2012 the Commission issued a Notice of Proposed Rulemaking ("NPRM"), under GT Docket 12-354, in which the Commission seeks comments related to spectrum sharing in the 3550-3650 MHz and the 3650-3700 MHz Band.
4. IEEE 802 applauds the Commission for adopting the recommendations of the PCAST report for finding novel ways to use the spectrum for commercial uses.
5. IEEE 802 agrees with the FCC that the spectrum should not remain unused if there are radio technologies that can make use of the spectrum while preserving the established regulatory

[1] The IEEE Local and Metropolitan Area Networks Standards Committee ("IEEE 802").

[2] This document represents the views of IEEE 802. It does not necessarily represent the views of the IEEE as a whole or the IEEE Standards Association as a whole.

framework. Spectrum can be shared in frequency, time and space. IEEE 802 supports the FCC's Notice of Proposed Rule Making, to create a new Citizens Broadband Service in the 3550-3650 MHz band (3.5 GHz Band) which will promote advances that enable more efficient use of radio spectrum.

6. IEEE 802 supports the establishment of a regulatory framework as suggested in Paragraph 7 permitting the opportunistic use of cognitive devices in these bands.

IEEE 802 RECOMMENDS A RIGOROUS ANALYSIS OF SEPARATIONS AROUND FIXED SATELLITE SERVICE EARTH STATIONS

7. The protection of the FSS below 3700 MHz is an issue requiring more rigorous analysis. Exclusion zones can be augmented by new technologies like the geo-location database.
8. Industry experience in the 3650-3700 MHz band indicates that if FSS protection was by power control and OOBE, rather than by spatial separation, the number of deployments would be significantly larger than it is today.
9. The FSS industry has 20 years of experience demonstrating that a fence of moderately good conducting material around an FSS receiver site (see http://www.panynj.gov/photo/real-estate/teleport-site-map.jpg) can protect receivers from terrestrial interference.
10. We propose that the Commission take into account the possibility of actions by the 3700-4200 MHz band FSS license holders to improve the immunity of their sites from interference. Such one-time investments can create immunity from interference for FSS earth stations. This would protect FSS operations as well as pay for itself many times over if access to (and use of) adjacent spectrum was created.

IEEE 802 SUPPORTS THE USE OF A VARIETY OF INTERFERENCE MITIGATION TECHNIQUES THAT CAN BE DEPLOYED COOPERATIVELY TO ENHANCE SPECTRUM EFFICIENCY

11. IEEE 802 has created multiple standards for White Space deployments in the TV Bands specifying devices that access the database service and, based on parameters communicated from it, can change their radio parameters to utilize the spectrum at a given location and at a given time.
12. IEEE 802 believes that technologies exist to enable real time and semi-real time spectrum sharing, where such sharing can be enabled through a geolocation database (also referred to

as the "SAS" in the NPRM). Some advanced approaches to interference mitigation, such as the one developed in the IEEE Standard 802.22.1™-2010 originally designed for interference protection of licensed wireless microphones, sensing techniques and DFS techniques may be applicable.

13. IEEE recently authorized a revision project to add Advanced Beaconing capabilities to the IEEE Standard 802.22.1™-2010 to enable spectrum sharing in the 3550-3650 MHz band with existing radars and fixed satellite earth stations. This revision project PAR was introduced to support the PCAST report promoting spectrum sharing and more efficient use of spectrum through new cognitive radio technologies and interference mitigation techniques.

IEEE 802 SUPPORTS CONTINUATION OF THE EXISTING LIGHT LICENSING RULES IN THE 3650-3700 MHZ BAND

14. Paragraphs 77-82 of the NPRM address a "Supplemental Proposal to Include the 3650-3700 MHz Band."
15. IEEE 802 agrees with the observation that such a transition "would likely entail equipment upgrades and technology conversion." As noted in the NPRM, WiMAX systems based on IEEE Standard 802.16 have been deployed for broadband wireless access in the 3.5 GHz band.
16. As noted in an earlier comment, fixed/nomadic wireless backhaul should be considered as an element of the small-cell deployment scenario. If small-cell deployment flourishes in the 3550-3650 MHz band under the proposed rules, then the "lightly-licensed" 3650-3700 MHz band could become significantly deployed for backhaul service of those same small cells.
17. IEEE 802 notes that the new IEEE P802.16r project is developing standards to enhance IEEE Standard 802.16 for backhaul applications.
18. Accordingly, IEEE 802 does support the "Supplemental Proposal" to include the 3650-3700 MHz band in the proposed regulatory regime.

CONCLUSION

19. IEEE 802 endorses the FCC NPRM promoting spectrum sharing and more efficient use of spectrum through new cognitive radio technologies and interference mitigation techniques.
20. IEEE 802 applauds the Commission for adopting the recommendations of the PCAST report

to find novel ways to use the spectrum for commercial uses.

21. IEEE 802 has and continues to develop standards that will support the regulatory framework to be established in the 3550-3650 MHz bands.

Respectfully submitted,

/s/

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